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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,653	11/20/2000	Eric R. Alling	50807	8386

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EXAMINER

BELL, MELTIN

ART UNIT PAPER NUMBER

2121

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/716,653

Applicant(s)

ALLING ET AL.

Examiner

Meltin Bell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 15-34 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

This action is in response to the solicitation for reconsideration filed 2/27/04 in application 09/716,653. The following is in specific regards to the applicant's arguments in the REMARKS.

- i) Drawing replacements for Figs 1-4 filed by the applicant have been entered.
- ii) Specification amendments filed by the applicant have been entered. Applicant(s) argue(s) that "the second and third paragraphs of the Detailed Description of the Preferred Embodiments Section...provide enough information about how the tree is traversed and when it ends...the specification is clear about how and why the navigation of the decision tree ends at particular resolution points and how the tree is traversed". The page 2, paragraph 6 objection to the specification is withdrawn.
- iii) The title amendment filed by the applicant has been entered. Applicant(s) argue(s) that "System and Method for Remotely Diagnosing Faults...is believed to be descriptive". The objection to the title is withdrawn.
- iv) Applicant(s) argue(s) that "In view of the cancellation of Claims 1-14 and the newly added Claims 15-34...the claimed invention may be utilized to provide" (REMARKS page 14) and "remote diagnosis and remediation...while eliminating or greatly reducing, the need for technical personnel to actively participate in the technical support process" (specification page 7, lines 18-21) for traversing the 35 U.S.C. 101 rejection of claims 1-14 in the prior office action:

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-14 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. Claims 1-14 are not claimed to be practiced on a computer nor are they stored in a computer readable medium.

As systems, claims 1-9 are not in the technological arts because they can be incorporated on paper with pen or pencil, in a printed manual, within one's head, etc.

As methods, claims 10-14 offer abstract ideas (e.g. "user interface", "images", "queries") that are also not applied in the technological arts. Abstract ideas and their manipulation constitute "descriptive material" that is not patentable, *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759 and *Schrader*, 22 F.3d at 292-93, 30 USPQ2d at 1457-58, respectively. If the abstract ideas of claims 10-14 represented functional descriptive material consisting of data structures and computer programs which impart functionality when employed as a computer component (recorded on some computer readable medium), they become structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. For examples,

- *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) offers claim to data structure stored on a computer readable medium that increases computer efficiency held statutory and
- *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 offers product-by-process claim to computer having a specific data structure stored in memory also held statutory while

- *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 offers claim to a data structure *per se* held nonstatutory.

Because the claims are not claimed to be practiced on a computer and/or stored on a computer readable medium, they are not limited to practical applications in the technological arts. Specifically, the claims are systems and methods without any particular practical application, such as a program running on a computer and stored in a computer readable medium or memory. On that basis alone, those claims are clearly nonstatutory.

Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a credible asserted utility or a well established utility. Claims 1-14 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Newly added claims 15-33 filed by the applicant have been entered, but are not persuasive. The language of claims 15-33 raise questions as to whether the claims are directed to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. If the system of claim 15 and the method of claim 28 were implemented on a computer (i.e. computer-implemented system and computer-implemented method, respectively) as in claim 34, the claims would be statutory. Alternatively, implementing

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the user interface module of claim 15 on a computer would also overcome a 35 U.S.C. 101 rejection. Claims 15-33 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. Claim 34 overcomes 35 U.S.C. 101 concerns of the prior office action.

v) Applicant(s) argue(s) that "Claims 15-34 are enabled...the second and third paragraphs of the Detailed Description...provide enough information...so that one of ordinary skill in the art could make and use the invention" for traversing the 35 U.S.C. 112-1st paragraph rejection of claims 1-14 in the prior office action:

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Support for this 35 U.S.C. 112, first paragraph rejections comes from MPEP

2164.07(I)(A):

"As noted in *In re Fouche*, 439 F.2d 1237, 169 USPQ 429 (CCPA 1971), if "compositions are in fact useless, appellant's specification cannot have taught how to use them." 439 F.2d at 1243, 169 USPQ at 434. The examiner should make both rejections (i.e., a rejection under 35 U.S.C. 112, first paragraph and a rejection under 35 U.S.C. 101) where the subject matter of a claim has been shown to be nonuseful or inoperative. The 35 U.S.C. 112, first paragraph, rejection should indicate that because the invention as claimed does not have utility, a person skilled in the art would not be able to use the invention as claimed, and as such, the claim is defective under 35 U.S.C. 112, first paragraph."

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Newly added claims 15-34 filed by the applicant have been entered. The 35 U.S.C. 112, first paragraph rejections are withdrawn.

vi) Applicant(s) argue(s) “the cancellation of Claims 1-14 and the newly added Claims 15-34” for traversing the 35 U.S.C. 112-2nd paragraph rejection of claims 10-14 in the prior office action. Newly added claims 15-34 filed by the applicant have been entered. The 35 U.S.C. 112-2nd paragraph rejections are withdrawn.

vii) Applicant(s) argue(s) that “Hekmatpour does not disclose or teach each and every element of newly added Claim 15” for traversing the 102(b) rejections in light of *Hekmatpour* USPN 5,644,686 (July 1, 1997). The Examiner agrees that the sections of *Hekmatpour* referred to in the prior office action do not teach certain elements as recited in Claim 15. However, *Hekmatpour* teaches,

- a knowledge base including a plurality of fault diagnoses and fault symptom queries, wherein each said fault symptom query includes potential responses and images that correspond to the potential responses (Figs. 1a, 5, 8, 16a-p, 17-19, 22, 24-28)
- a decision tree module including a decision tree having a plurality of decision points each corresponding to one of the fault symptom queries and a plurality of resolution points each corresponding to one of the fault diagnoses, wherein each said potential response in the decision tree indicates one of the decision points or one of the resolution points and one of said decision points is identified as a starting decision point (Fig. 1c)
- a user interface module in communication with said decision tree module, said knowledge base and a user access device (Figs. 11-13, 15)

Consequently, newly added claims 15-27 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by *Hekmatpour*.

viii) Applicant(s) argue(s) that “newly added Claim 28 contains some elements that are similar to elements of canceled Claim 10 and Applicants submit that *Hekmatpour* in view of *Oda* and further in view of *Kuji* does not teach what is recited in Claim 28” for traversing the 103(a) rejections in light of *Hekmatpour* in view of *Oda* USPN 5,127,005 (June 30, 1992) and further in view of *Kuji et al* “Marginal Fault Diagnosis Based on E-beam Static Fault Imaging with CAD Interface” (September 1990). Citations in the prior office action notwithstanding, Claims 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hekmatpour* in view of *Oda* and further in view of *Kuji et al*.

Hekmatpour teaches,

- identifying a starting decision point on a decision tree, wherein the decision tree includes a plurality of decision points each corresponding to a fault symptom query and a plurality of resolution points each corresponding to a fault diagnosis, wherein each said fault symptom query includes potential responses and images that correspond to the potential responses and each said potential response in the decision tree indicates one of the decision points or one of the resolution points (Figs. 1a, 8, 16a-p, 17-19, 22, 24-28)
- designating the starting decision point as the next decision point (Figs. 1c, 4-5)
- transmitting the fault symptom query corresponding to the next decision point to a user access device (Figs. 11-13, 15)
- receiving a reply from the user access device including one of the potential responses (Figs. 14, 19)

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- transmitting the fault diagnosis corresponding to said one of the resolution points to the user access device (Figs. 17-18)

- repeating steps for knowledge verification (column 12, lines 65-67, "Verify the knowledge...checked for syntax"; column 13, lines 1-24, "violations, conflicts, and...a manufacturing process") and in the knowledge processing algorithm (column 17, lines 29-48, "Given a problem...ground level space"; FIG. 10; column 19, lines 7-43, "Step 0: Given...Return to step 2").

Oda et al teaches,

- repetition for making fault diagnosis efficient (column 5, lines 27-45, "In this fault...tree are reached")

However, *Hekmatpour* and *Oda et al* don't explicitly teach continuing said transmitting the fault symptom query and receiving a reply until said one of the potential responses indicates one of the resolution points, wherein if said one of the potential responses indicates one of the decision points then said one of the decision points is designated as the next decision point while *Kuji et al* teaches

- repeating three steps until faults no longer appear (page 1051, STEP 2 through 5, "STEP 2: A navigation map...go to step 2")

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for

- Decreasing diagnostic effort (*Kuji et al*, page 1049, Introduction, paragraph 3, sentence 2, "Since many internal...little diagnostic effort")

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- Smoothing interaction between the user and expert knowledge base system (*Oda et al*, column 14, lines 67-68, “the fault diagnosis...present invention re-”; column 15, lines 1-5, “peatedly carries out...the machine trouble”)
- Solving multiple problems (*Hekmatpour*, column 17, lines 29-48, “Given a problem...ground level space”)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Hekmatpour* with *Oda et al* and *Kuji et al* to obtain the invention specified in claims 28-33, a method for diagnosing a fault. The modification would have been obvious because one of ordinary skill in the art would have been motivated to solve multiple problems efficiently using a looping construct.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Bell whose telephone number is 703-305-0362. The examiner can normally be reached on Mon - Fri 7:30 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri can be reached on 703-305-0282. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MB / M.B.


GEORGE B. DAVIS
PRIMARY EXAMINER